STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
Honolulu, Hawaii

180-Day Exp. Date: May 1, 2007

March 23, 2007

Board of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii

REGARDING: Conservation District Use Application (CDUA) OA-3391for the Hawaii Pacific University Hale Kou Force Main Located at Kaneohe, Island of Oahu, TMK: (1) 4-5-035:001 & 010; (1) 4-5-042:002, 011, 015, & 016

APPLICANT: Hawaii Pacific University (HPU)

LANDOWNERS: Hawaii Pacific University
City and County of Honolulu
State of Hawaii
Christopher O. Emerson

USE: Approximately (≈) 37,500 ft²

SUBZONE: General and Special

DESCRIPTION OF AREA AND CURRENT USE

The proposed project site is on the windward side of the island of Oahu within the Koolaupoko District, ahupuaa of Kailua. The proposal crosses eight lots of record of which six lots are located within the Conservation District: TMK (1) 4-5-035:010 owned by Hawaii Pacific University; TMK (1) 4-5-035:001 and TMK (1) 4-5-042:015 owned by the City & County of Honolulu under the jurisdiction of the Department of Enterprise Services and the Department of Facility Maintenance respectively; TMK: (1) 4-5-042:002 & 011 owned by the State of Hawaii under the jurisdiction of the Department of Transportation; and TMK: (1) 4-5-042:016 owned by private landowner, Christopher O. Emerson. All parcels lie within the General subzone of the Conservation District with the exception of TMK:(1) 4-5-035:010 that lies within the Hawaii Loa Special subzone. **(Exhibit 1 & 2).**

The existing wastewater treatment plant located on the Hawaii Loa campus was constructed in 1972 with the initial building program for Hawaii Loa College. The treatment plant provides secondary treatment with solids collected in a digester and

effluent passing through a clarifier before discharging into one of two on-site effluent trench systems. Collected solids are pumped out of the digester once a year and hauled away for disposal. The plant has a capacity of 30,000 gallons per day and a current average daily flow of 20,000 gallons.

The proposed .75-mile long force main traverses an array of urban type land uses in spite of the predominance of conservation designated land along its alignment. It crosses under two roads- Kamehameha Hwy, a major road connecting Kaneohe to the north with the Pali Highway to the south, and the H-3 Interstate Freeway at the Hale Kou Interchange.

The City's Hale Kou Sewer Pump Station, located within the Urban District at the entrance to an existing residential subdivision, collects and pumps waste to the Kaneohe Wastewater Treatment Plant. The main also crosses the northern corner of the Pali golf course and through a privately owned lot in the Conservation District. The proposed main also passes through an unnamed gulch and under Kamooalii Stream. According to the applicant, conditions of the gulch suggest that the natural setting and streambed have been modified to accommodate flood improvements **(Exhibit 3, 4 & 5)**.

Utilities within the project area include a Board of Water Supply 12" water line located in Kamehameha Hwy. Overhead power and communication systems are along Kianaole Road. Two Hawaiian Electric utility easements pass over a segment of the alignment from a transformer station located to the east and above the unnamed gulch. There is no municipal sewer service for lots in the Conservation District.

The Flood Insurance Rate map designates land along the alignment as Flood Zone D that is defined as "areas in which flood hazards are undetermined but possible." There are three flowage easements along the west-facing slope through the gulch. The easements were created to allow runoff from uphill adjoining properties to flow into the gulch that is located on TMK: (1) 4-5-042:016.

Kamooalii Stream, a perennial stream, passes under the Highway Interchange. At the proposed pipeline crossing, the stream flows within a narrow boulder filled channel about 20 feet in width. Slopes on both sides are moderately steep and densely vegetated.

The botanical survey revealed 98 plant species in the project area. All but 2 species are considered to be naturalized species or cultivated, ornamental species. 7 are Polynesian introductions. Both of the two indigenous species recorded (primrose willow and koali'awa) are common on the windward side of Oahu. Common bird (barred dove, sparrow and mynah) species were observed. Stream water was muddy and no stream fauna was observed but a croaking bullfrog was heard. No species listed as protected, threatened or endangered were observed in the project area.

The State Historic Preservation Division has stated that the project should have "no effect" on historical resources due to previous ground disturbances during the construction of the freeway interchange.

PROPOSED USE

The $2.0 million project is proposed by the University to connect a new sewer pump station located on campus to an off-site sewer force main to be hooked up with the City and County's Hale Kou Sewer Pump Station. The approximately 37,500-ft² force main would be constructed within a 10-foot wide sewer easement across the subject lots. From the new pump station on campus, the alignment crosses Kamehameha Highway in a northeast to southwest direction, passes through a corner of the Pali Golf Course then turns north crossing all travel lanes and ramps of the H-3 Freeway on the west side of the Interchange. From Kionaole Road the alignment enters private property and proceeds along the bottom of a gulch, traverses under Kamooalii Stream on City property, continues uphill crossing private property and then enters the Hale Kou Sewer Pump Station **(Exhibit 6)**.

The entire force main shall be constructed using directional drilling rather than a cut and cover construction method. It is believed that directional drilling minimizes disruptions to the environment and reduces construction related disturbance to the infrastructure that are typically associated with cut and cover construction methods.

To facilitate the drilling process, up to five separate "access" pits will be needed. Areas for the pits will be cleared and the ground excavated to allow the directional drill to enter the ground. At this time, the pit dimensions are estimated at 4'x 6' or 4'x 8' depending on the depth of the drillings. The drilling contractor shall select the locations of the access pits. An 8" high-density polyethylene pipe with heat-fused joints is planned for the force main. The polyethylene pipe has a life expectancy of 50-75 years. Critical sections of the polyethylene pipe shall be inserted inside a slightly larger diameter pipe creating a "jacket" to protect the force main should settlement occur. Topographical conditions shall determine how deep the pipe would be installed with expected depths ranging from -5 feet to -20 feet. After pipe sections are installed and tested, the pits shall be backfilled with the excavated material and the area restored to pre-construction conditions. Excess material will be hauled away to a disposal site.

Under the H-3 segment, sections of the main shall be enclosed in a steel carrier pipe per DOT guidelines. HPU must execute a Use and Occupancy Agreement for the installation, occupancy and maintenance of the force main and any appurtenances per DOT requirements. The DOT shall establish appropriate depths under the H-3 Freeway.

It is believed that no recreational or residential uses will be displaced by the proposal. It is believed that no historic properties will be affected by the proposed action. The applicant has made the respective landowners aware of the processing of the CDUA for the proposal and the landowners have approved the utility easement over their subject property(s). The applicant is in the process of procuring easements from the State and City.

Fugitive dust and noise impacts are expected. Noise will vary by construction phase and the type of equipment used during the different phases. Noise will be pronounced during

the early stages when an area around the access pit is cleared and excavated. The drilling rig will be placed in the access pit and aligned in the general direction of the next access pit. Initially, the drilling rig can be noisy but noise is expected to diminish as the corer is directed underground to the next access pit.

The contractor shall be responsible for general housekeeping along the alignment and for keeping adjacent streets and properties free of dirt, mud, and construction litter and debris. Best Management Practices (BMPs) for erosion and drainage control during construction shall be prepared for review and approval by the City. Directional drilling under Kamehameha Highway and the H-3 freeway should not interfere with traffic movement on those respective roads. A traffic management plan will be prepared and submitted to the Transportation Divisions of the City and State. The contractor shall coordinate activities on the Pali Golf Course with the golf course Superintendent to minimize interference with play on the 15th hole.

When operational, the force main will convey ≈ 20,000 gallons per day of treated wastewater effluent to the municipal sewer system ceasing the discharge of effluent onto Conservation District land. Upon completion, the force main shall not be visible to the public eye.

SUMMARY OF COMMENTS

The application was referred to the following agencies for their review and comment: the **State**: Department of Health; Office of Hawaiian Affairs; Office of Environmental Quality Control; Department of Transportation, Department of Land and Natural Resources Divisions of: Conservation and Resource Enforcement, Engineering, Forestry and Wildlife, Oahu District Land, Historic Preservation, Water Resource Management; the **City and County of Honolulu:** Department of Planning; the Board of Water Supply, the Kaneohe and Kailua Neighborhood Board. In addition, the application and Environmental Assessment was also sent to the Hawaiian Electric Company, Inc. and the nearest public libraries, the Kaneohe and the Kailua Public Library, to make this information readily available to those who may wish to review it.

Comments were received and summarized from the following agencies:

STATE OF HAWAII

DEPARTMENT OF HEALTH (DoH)

Clean Water Branch

- The Army Corps of Engineers should be contacted for this project.
- The Director of Health may require the submittal of an individual permit application or a Notice of Intent (NOI) for general permit coverage authorized under the National Pollutant discharge elimination System (NPDES).

- The applicant for an NPDES permit is required to either submit a copy of the NOI or NPDES to the State Historic Preservation Division (SHPD) or demonstrate to the satisfaction of the DoH that the project, activity or site covered by the NOI or application has been or is being reviewed by SHPD.
- Any discharges related to project construction or operation activities, with or without a Section 401 WQC or NPDES permit coverage should comply with the applicable State Water Quality Standards pursuant to HAR, Chapter 11-54.
- HRS, §342D-50(a) requires that, "No person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter or a permit or variance issued by the director."
- We strongly recommend that that applicant review all of the Standard comments found on our website.

Applicant's response

A Department of the Army Permit should not be required for this project. The force main would be installed under Kamooalii Stream by directional drilling thus no discharge into waters of the United States is anticipated.

It is anticipated that a NPDES general permit will be required for the discharge of hydrotesting water. Application for a general permit will be made to the Department of Health. A copy of the NOI or NPDES will be submitted to SHPD. SHPD indicated that their records show there are no known historic sites at this location and no sites were identified during archaeological monitoring conducted during the construction of Hale Kou Freeway Interchange.

Construction activities shall comply with the applicable State Water Quality Standards as specified.

OFFICE OF HAWAIIAN AFFAIRS (OHA)

The applicant has properly addressed all issues relating to cultural and natural resource protection. OHA requests that, in accordance with Section 6E-46.6, HRS and Chapter 13-300, HAR, if the project moves forward, and if any significant cultural deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State Historic Preservation Division shall be contacted.

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

- The applicant should address the indirect, secondary and cumulative impacts of the new transmission main. What future development is planned at the Hawaii Loa campus? What is the potential for land along the sewer main corridor to be developed?
- The applicant should describe the potential impact to cultural resources.

- The applicant should contact the Commission on Water Resources management concerning the stream crossing.

Applicant's response

Currently there is no Master Plan for the Hawaii Pacific University-Hawaii Loa Campus. HPU is exploring expansion opportunities for the campus to include the construction of new residence halls, a student center, and classroom buildings. Expanding the physical plant at the Hawaii Loa Campus is attributable in part to increasing enrollment in the university. In the near future, HPU will commence work on a long-range development plan for the campus.

There is limited potential for land along the force main alignment to be developed. The force main traverses land set aside for recreation and transportation use. Land along Kamooalii stream cannot be developed because it is part of a flood control area. The force main crosses a residential lot and a lot in the State Conservation District on which a home has been constructed.

The State Historic Preservation Division pointed out that their records show there are no known historic sites at this location and no sites were identified during archaeological monitoring conducted during the construction of the Hale Kou Interchange. Extensive past disturbances during the development of the H-3 and Kamehameha Highway make it unlikely significant historic sites would remain. It is believed that in the absence of known archaeological sites or resources, cultural resources should not be impacted by the proposal.

The Commission on Water Resources Management had no comments to offer.

DEPARTMENT OF LAND AND NATURAL RESOURCES

Engineering (ENG)

The correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is Zone D. The National Flood Insurance Program does not have any regulations for development within Zone D.

Applicant's response

The Final environmental Assessment shall be revised to indicate that the correct FIRM designation is Zone D and not Zone X.

Historic Preservation (SHPD)

A review of our records shows that there are no known historic sites at this location. No sites were identified during archaeological monitoring conducted during the construction of the Hale Kou Interchange. Extensive past disturbances during the development of the

H-3 and Kamehameha Highway makes it unlikely significant historic sites would remain. Thus, we believe that "no historic properties will be affected" by this action.

In the unlikely event that historic sites, including human remains and/or burials, are discovered during the proposed construction, all work in the immediate area must stop and the SHPD must be immediately contacted.

Oahu District Land Office (ODLO)

TMK: (1) 4-5-042:002 is State land under the Department of Land and Natural Resources and has been set aside to the Department of Transportation (DOT) by Governor's Executive Order (EO) 2631. We have no objections to the DOT issuing an easement with the prior approval of the Board of Land and Natural Resources.

Staff notes: EO 2631 set aside State land to DOT for Highway purposes. As the Force Main is not for Highway purposes, a land disposition from the Land Division shall be required.

Commission of Water Resource Management (CWRM)

No comments

CITY AND COUNTY OF HONOLULU

Department of Planning and Permitting

- We recommend that the FEA describe the project as located outside of the Urban Community Boundary and running through land designated as "Open Space/Preservation Areas" and "Major Parks, Golf Courses, and Cemeteries, and Nature Preserves" in regards to the Koolaupoko Sustainable Communities Plan.
- The Board of Water Supply should be consulted.
- The EA should explain the need for the project. It should also explain what is the capacity of the City's Halekou Wastewater Pump Station (WWPS) and what is the current and future wastewater flows for the project.
- The applicant is required to prepare a Traffic Control Plan (TCP) for the portion of the proposed project that involves City roadways. The TCP, along with construction plans need to be submitted to the Department of Planning and Permitting for review and approval.

Applicant's response

<u>Koolaupoko Sustainable Communities Plan</u>

We believe that the project limits is essentially located within the Preservation Community Boundary of the subject sustainable Communities Plan. A short section of the force main is within the Urban Community boundary on land designated Low Density

Residential where it crosses residential zoned property and enters the Hale Kou Pump Station. The Final Environmental Assessment will include the correct citations for Open Space/Preservation Area, Major Parks, Golf Courses, and Cemeteries, and Nature Preserves, and Low Density residential.

Board of Water Supply

The Board of Water Supply has been consulted.

Need for the Project

The existing individual wastewater treatment plant on campus is nearing its capacity and economic life. HPU administrators have decided that continued secondary treatment with effluent disposed into two on-site effluent trench systems is not a desired disposal alternative. The existing plant has a capacity of 30,000 gallons per day and a current average daily flow of 20,000 gallons per day.

The capacity of a wastewater pump station can be calculated at different flow rates such as average flow, maximum flow, and peak flow. Capacity can also be affected by dry or wet weather conditions. The average daily flow capacity for the Hale Kou WWPS is estimated a 135 gallons per minute; the maximum flow at 675 gallons per minute; and the peak flow at 803 gallons per minute.

A Sewer Connection Application (2006/SCA1040) has been approved to accommodate a daily flow of 30,000 gallons from the Hawaii Loa campus.

Traffic Control Plan

A traffic control Plan for city roadways will be submitted to the DPP for review and approval. We would like to point out that the affected City Street is Kahiko Street. All other streets within the project limits are under the jurisdiction of the State Department of Transportation.

BOARD OF WATER SUPPLY

The construction drawings should be submitted for our review and approval.

KAILUA NEIGHBORHOOD BOARD

The Board has no comments on the project but is concerned about traffic during construction and would like to receive a copy of the traffic assessment.

Applicant's response

A traffic assessment was not prepared for the project. Directional drilling, rather than excavation (cut & cover) construction, will minimize construction impacts on the natural

and man-made environment to include roads and traffic circulation within the project limits. A traffic management plan will be submitted to the Department of Transportation and the County Department of Planning and Permitting for review.

HAWAIIAN ELECTRIC COMPANY (HECO)

The proposed directional drilling will not affect HECO overhead easements in the project area. HECO will need continued access to existing facilities/easements on the subject property for maintenance purposes. In addition, we reserve the opportunity to further comment on the protection of our existing power lines and electric power facilities that may be affected by the project. As the project develops and construction plans are finalized, please continue to keep us informed so that we may be better able to evaluate any effects on our system facilities.

ANALYSIS

Following review and acceptance for processing, the Applicant's consultant was notified, by letter dated November 24, 2006, that:

1. The proposed use is an identified land use in the General subzone of the Conservation District, pursuant to §13-5-22, Hawaii Administrative Rules (HAR), P-6, PUBLIC PURPOSE USES, D-2, transportation systems, transmission facilities for public utilities, water systems, energy generation facilities utilizing the renewable resources of the area and communications systems and other such land uses which are undertaken by non-governmental entities which benefit the public and are consistent with the purpose of the conservation district. Please be advised, however, that this finding does not constitute approval of the proposal;

2. Pursuant to §13-5-40 of the Hawaii Administrative Rules, a Public Hearing will not be required;

3. In conformance with Chapter 343, Hawaii Revised Statutes (HRS), as amended, and Chapter 11-200, HAR, a finding of no significant impact to the environment (FONSI) is anticipated for the proposed project;

4. The proposed project is not within the Special Management Area.

A Finding of No Significant Impact (FONSI) to the environment was published in the February 23, 2007 Environmental Notice.

CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in Section 13-5-30, HAR.

1. *The proposed land use is consistent with the purpose of the Conservation District.*

   The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. Staff believes that implementation of the proposed project shall benefit the public health, safety, and welfare.

2. *The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.*

   The objective of the General subzone is to designate open space where specific conservation uses may not be defined but where urban uses would be premature. The objective of the Special subzone is to provide for areas possessing unique developmental qualities that complement the natural resources of the area. The proposed use is an identified land use pursuant to § 13-5-22, P-5, Public Purpose Use.

   The underground force main shall not be visible and disturbed areas shall be restored to pre-construction conditions. The Kamooalii streambed will not be disturbed. Staff believes the open space character shall be maintained.

3. *The proposed land use complies with provisions and guidelines contained in Chapter 205, HRS, entitled "Coastal Zone Management," where applicable.*

   Staff believes the proposed project complies with Chapter 205, HRS.

4. *The proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community, or region.*

   Because the force main shall be buried and micro-tunneling rather than traditional cut-and-cover construction shall be utilized, Staff believes the proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community or region.

5. *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding area, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

   The force main shall be buried underground and should not affect ground surface conditions of the affected parcels.

6. *The existing physical and environmental aspect of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable.*

Directional drilling should not affect landform, vegetation, and use of the land along the proposed alignment. The underground pipeline will not be visible thus Staff believes the natural beauty and open space characteristic of the land will be preserved.

7. *Subdivision of the land will not be utilized to increase the intensity of land uses in the Conservation District.*

There will be no subdivision of land for this proposed project.

8. *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

Upon completion, the force main will convey approximately 20,000 gallons per day of treated wastewater effluent to the municipal sewer system effectively ceasing the discharge of effluent onto conservation district land. Staff believes the proposed action shall not be materially detrimental to the public health, safety and welfare.

DISCUSSION

The Hawaii Pacific University is proposing to connect the University's windward Hawaii Loa campus to the City's Hale Kou Pump Station. The existing individual wastewater treatment plant on campus is nearing its capacity and economic life. Current wastewater flow will continue at the existing flow rate of 20,000 gallons per day. This rate will increase in proportion to student growth and expansion at the Hawaii Loa Campus. Increase in flow can be accommodated by the force main and the existing Hale Kou Sewage Pump Station. This will allow future expansion of the campus. When operational, the force main will convey approximately 20,000 gallons per day of treated wastewater effluent to the municipal sewer system effectively ceasing the discharge of effluent onto Conservation District land.

The entire force main shall be constructed using directional drilling rather than a cut and cover construction method. It is believed that directional drilling minimizes disruptions to the environment and natural resources and reduces construction related disturbance to the infrastructure that are typically associated with cut and cover construction methods.

Staff further notes that the Department is in receipt of a preliminary Master Plan for the Hawaii Pacific University Hawaii Loa campus and that a final Master Plan is currently in the making and is expected to be completed within the next five years. Staff strongly suggests that HPU completes the Master Plan to guide the expected growth and expansion of the Hawaii Loa campus.

Staff, therefore, recommends as follows:

RECOMMENDATION:

Based on the preceding analysis, Staff recommends that the Board of Land and Natural Resources APPROVE Hawaii Pacific University's application for the Hale Kou Force Main Located at Kaneohe, Island of Oahu, TMK: (1) 4-5-035:001 & 010; (1) 4-5-042:002, 011, 015, & 016 subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules, regulations, and conditions of the Federal, State, and County governments, and applicable parts of the Hawaii Administrative Rules, Chapter 13-5;

2. The applicant shall comply with all applicable Department of Health administrative rules. Particular attention should be paid to Hawaii Administrative Rules (HAR) Section 11-60.1-33, "Fugitive Dust" and to Chapter 11-46, "Community Noise Control";

3. The applicant shall obtain a land disposition from the Oahu District Land Office for the occupancy of State lands;

4. The applicant shall obtain authorization for easements from each landowner that the Force Main crosses;

5. That the applicant complete and submit to the Department a Master Plan for the Hawaii Pacific University-Hawaii Loa Campus by June 30, 2012;

6. Before proceeding with any work authorized by the Board, the applicant shall submit four (4) copies of the construction and grading plans and specifications to the Chairperson or his authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three (3) of the copies will be returned to the applicant. Plan approval by the Chairperson does not constitute approval required from other agencies;

7. Any work done or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been signed by the Chairperson, and, unless otherwise authorized, shall be completed within three (3) years of the approval. The applicant shall notify the Department in writing when construction activity is initiated and when it is completed;

8. All representations relative to mitigation set forth in the accepted environmental assessment or impact statement for the proposed use are incorporated as conditions of the permit;

9. The applicant understands and agrees that this permit does not convey any vested rights or exclusive privilege;

10. In issuing this permit, the Department and Board have relied on the information and data that the applicant has provided in connection with this permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings;

11. All activities connected with the project shall be contained within the project area as identified in the application;

12. The applicant shall plan to minimize the amount of dust generating materials and activities. Material transfer points and on-site vehicular traffic routes shall be centralized. Dusty equipment shall be located in areas of least impact. Dust control measures shall be provided during weekends, after hours and prior to daily start-up of project activities. Dust from debris being hauled away from the project site shall be controlled. Dust control of cleared areas will be initiated promptly;

13. Where any polluted run-off, interference, nuisance, or harm may be caused, or hazard established by the use, the applicant shall be required to take measures to minimize or eliminate the polluted run-off, interference, nuisance, harm, or hazard;

14. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities;

15. Potable water supply and sanitation facilities shall have the approval of the appropriate agencies;

16. Should historic remains such as artifacts, burials or concentration of charcoal be encountered during construction activities, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The contractor shall immediately contact HPD (692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary;

17. The applicant acknowledges that the approved work shall not hamper, impede or otherwise limit the exercise of traditional, customary or religious practices in the immediate area, to the extent such practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law;

18. Other terms and conditions as may be prescribed by the Chairperson; and

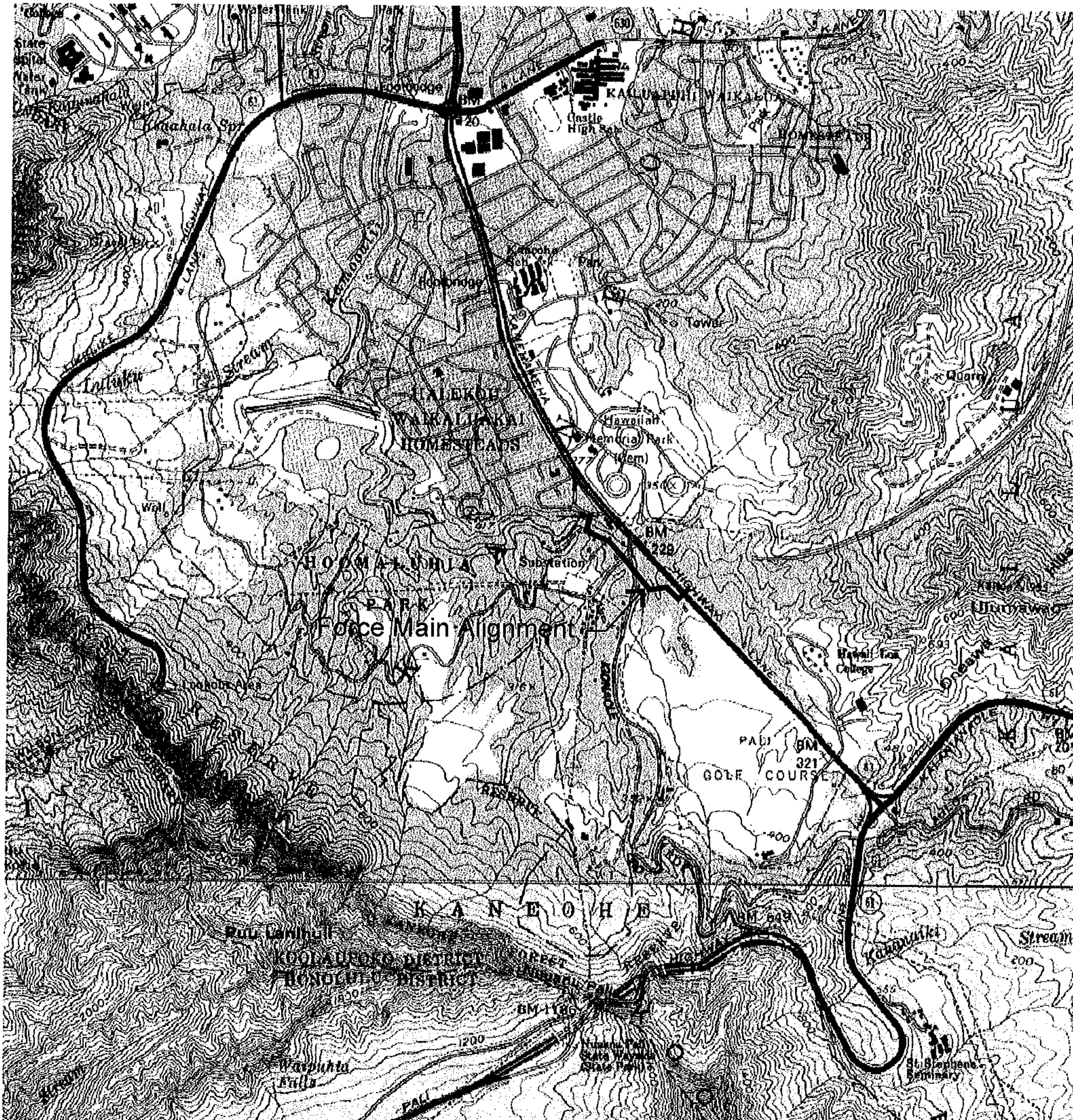
19. Failure to comply with any of these conditions shall render this Conservation District Use Permit null and void.

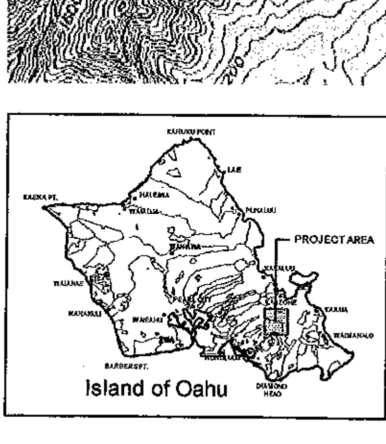
Respectfully submitted,

K. Tiger Mills, Staff Planner
Office of Conservation and Coastal Lands

Approved for submittal:

PETER T. YOUNG, Chairperson
Board of Land and Natural Resources





Source: USGS, Kaneohe & Honolulu Quadrangles

EXHIBIT 1

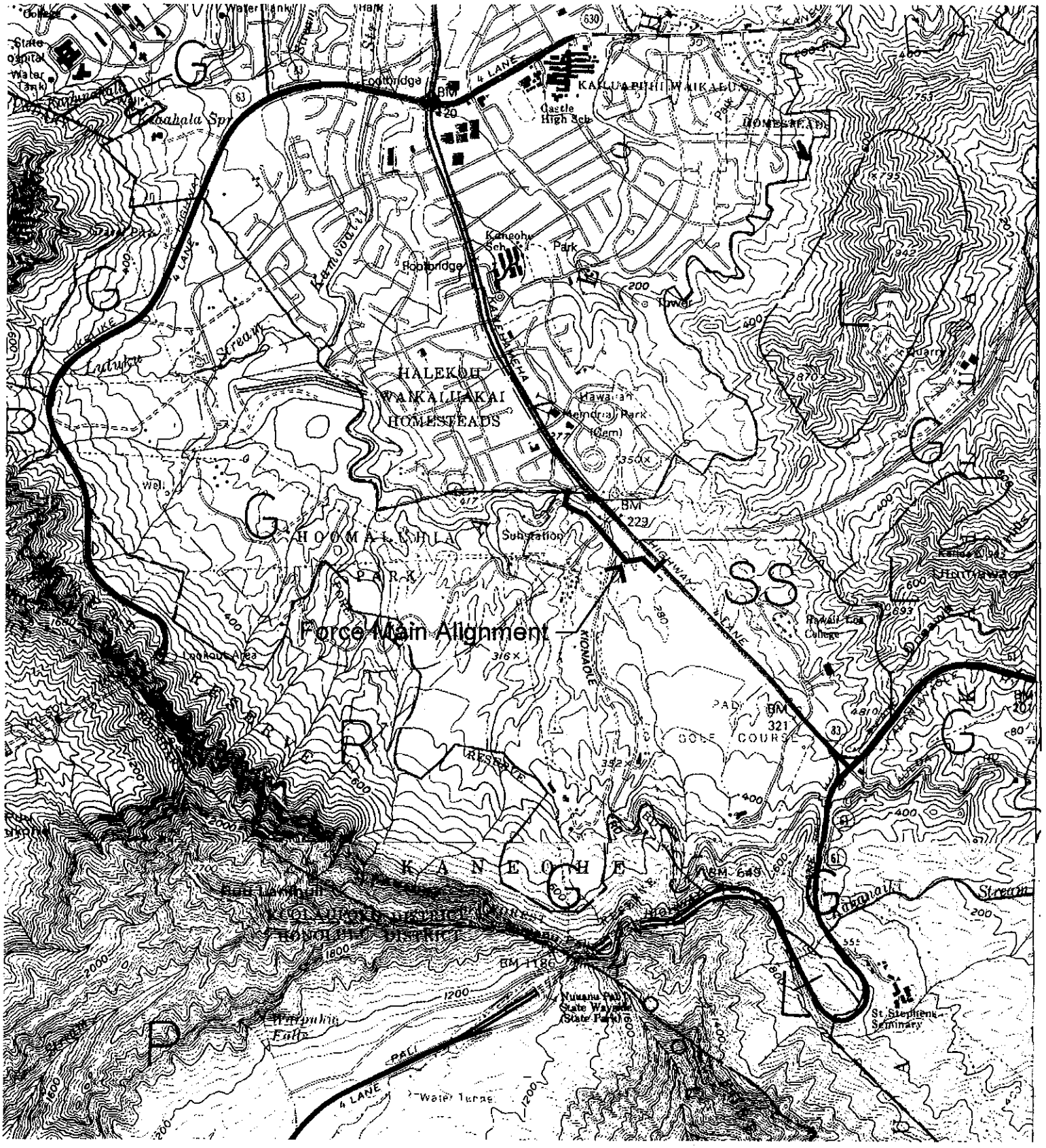
Figure 1
Location Map
HPU Halekou Force Main

Kaneohe, Ko'olaupoko District, O'ahu

NORTH

LINEAL SCALE (FEET)
1000 500 0 500 1000 2000

Gerald Park
Urban Planner
August 2005



Legend

- P — Protective Subzone
- L — Limited Subzone
- R — Resource Subzone
- G — General Subzone

Source: Department of Land & Natural Resources, Kaneohe (O-12) & Honolulu (O-13) Quadrangles

EXHIBIT 2

Conservation District and Subzones

HPU Halekou Force Main

Kaneohe, Ko'olaupoko District, O'ahu

NORTH

LINEAL SCALE (FEET)

1000 500 0 500 1000 2000

Gerald Park
Urban Planner
August 2006

Image 1. Section of Kamehameha Highway near Force Main Crossing.

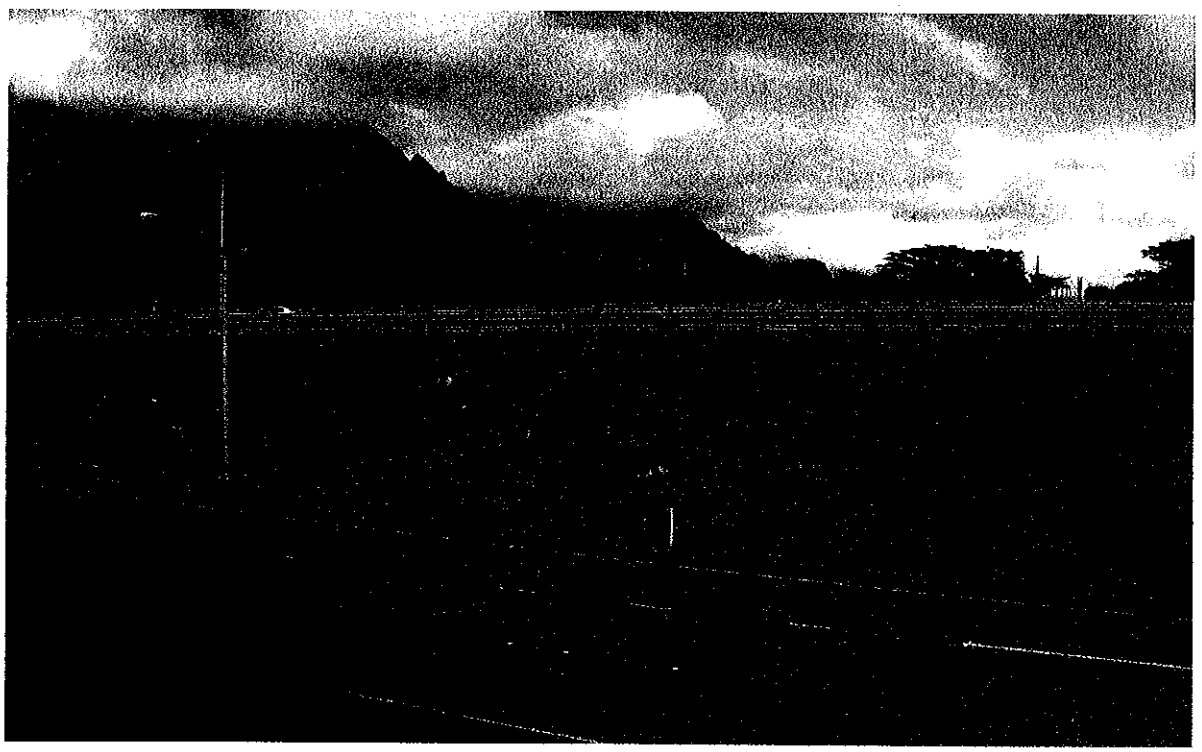


Image 2. H-3 Embankment near Force Main Crossing.

EXHIBIT 3

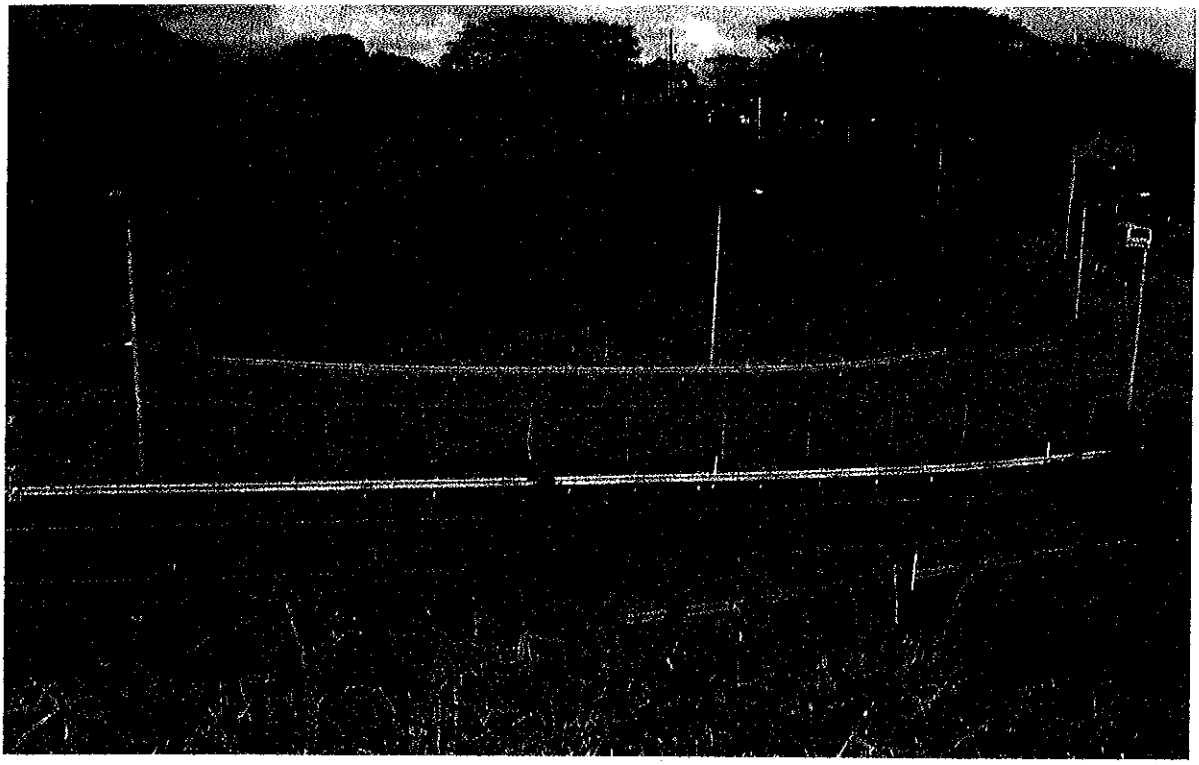


Image 3. Kionaole Street and Private Property from H-3 Westbound Lane.

Image 4. Section of Kamo'oali'i Stream at time of field investigation (2/06).

EXHIBIT 4

Image 5. View into Gulch from Kahiko Street. Scellato Residence on the Right.

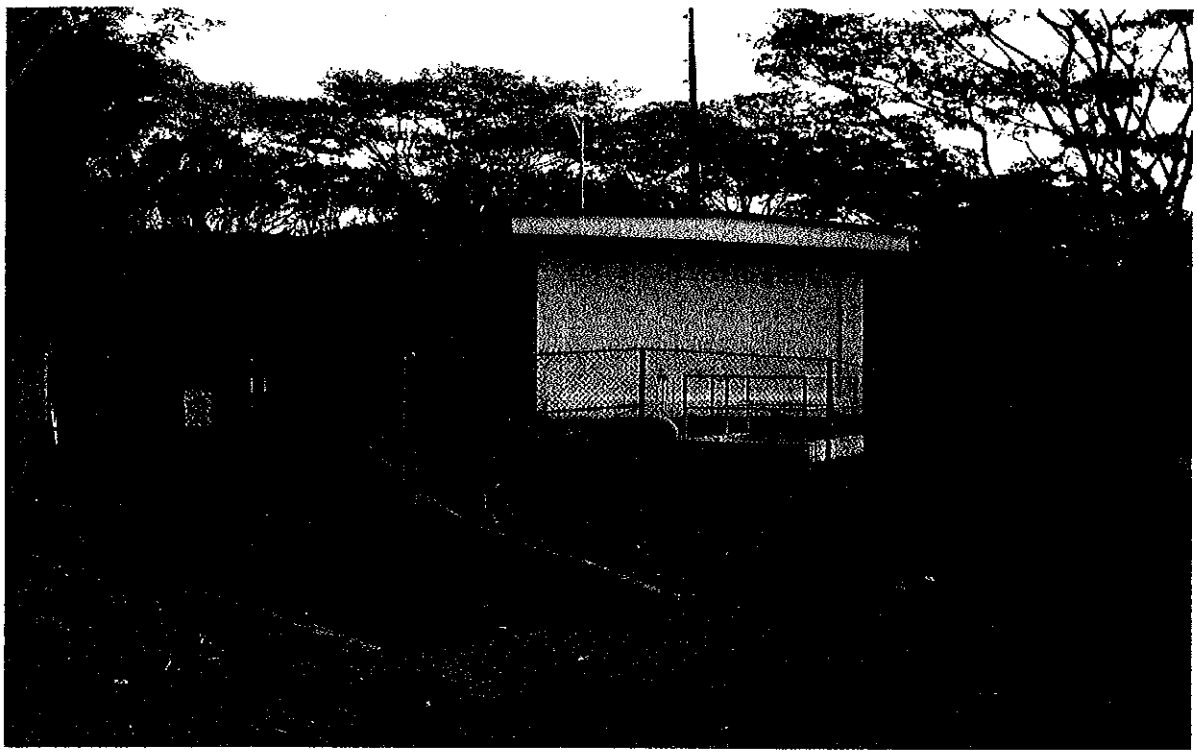
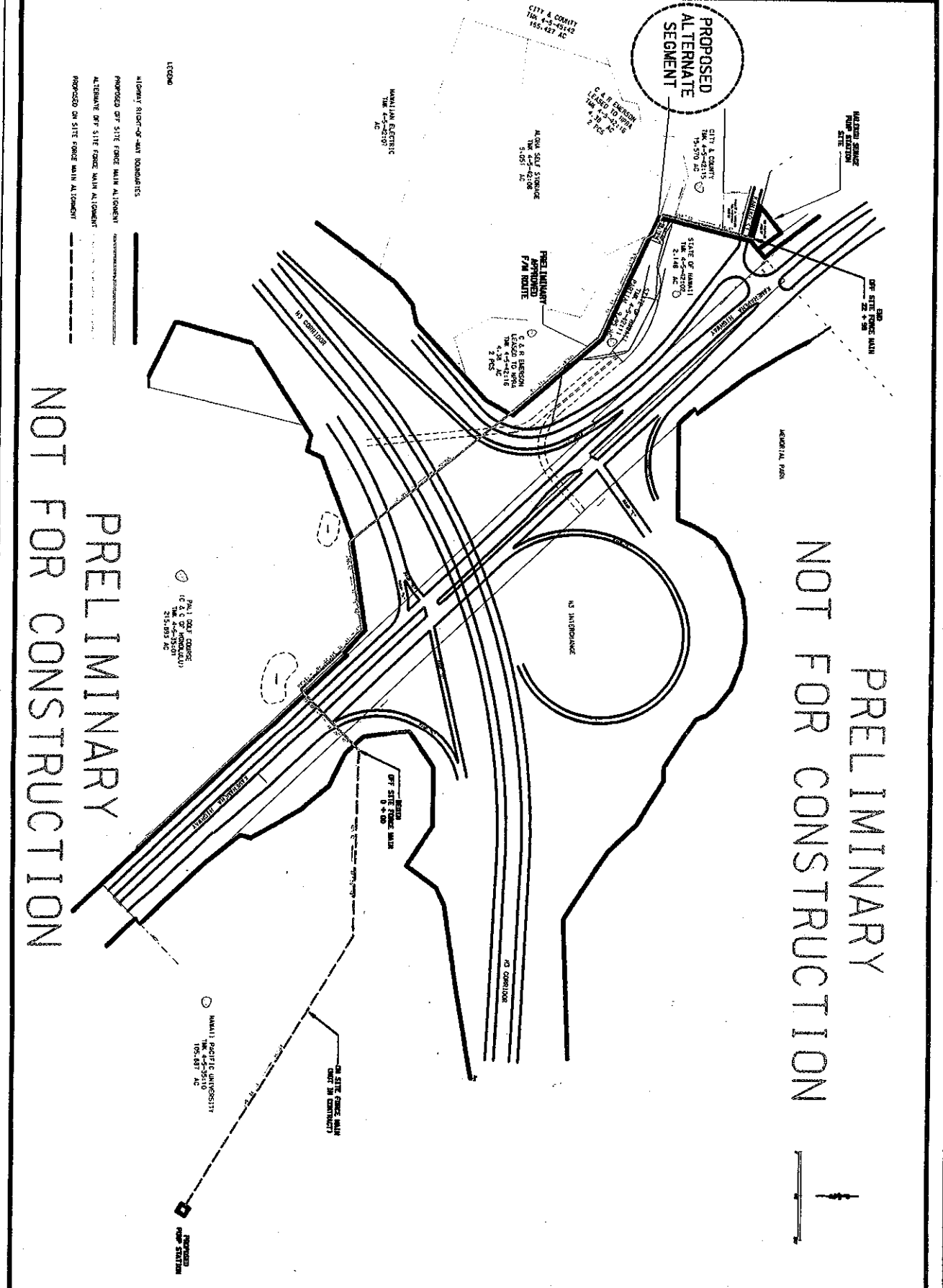


Image 6. Hale Kou Sewer Pump Station on Kahiko Street.

EXHIBIT 5



DGN NO.: OSFMALT	JOB NO.: HPU04	DRAWN BY: RGN	DATE: 3/8/05
SHEET 1	HAWAII PACIFIC UNIVERSITY HALEKOU FORCE MAIN ALTERNATE	RGN DESIGNS P. O. Box 4339, KAILUA-KONA, HI 96745 Phone/Fax 808-928-0000 ENVIRONMENTAL, CIVIL, & SANITARY ENGINEERING	REVISIONS NO. DATE 6/13/05
1 of 1	SITE PLAN		

EXHIBIT 6